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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/994,421	11/27/2001	Kamel Benaissa	TI-30681	9408

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EXAMINER	
DIAZ, JOSE R	

ART UNIT	PAPER NUMBER
2815	

DATE MAILED: 06/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Offic Action Summary	Application No.	Applicant(s)	
	09/994,421	BENAISSA ET AL.	
	Examiner	Art Unit	
	José R. Díaz	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 April 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

4a) Of the above claim(s) *1-10 and 15-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *11-14 and 19-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 19, 2004 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 11, 14 and 19-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Hsu et al. (US Pat. No. 5,910,673).

Regarding claim 11, Hsu et al. teaches a method comprising the steps of:

providing a semiconductor substrate with at least a first isolation region and a second isolation region (38) separated by a first distance (see fig. 2);

forming a well region (32) in said semiconductor substrate between said first isolation region and said second isolation region (38) (see fig. 2);

forming at least a first and second active regions in said well region (32) by forming a contact isolation structure (34) in said well region (32) between said first isolation region and said second isolation region (see fig. 2);

forming a gate dielectric layer (40) on said first active region and said second active region (see fig. 3);

forming a gate layer (44) on said gate dielectric layer wherein said gate layer overlies said first and second active regions, and said contact isolation region (34) (see fig. 4); and

forming electrical contacts (72) to said gate conductive layer wherein said electrical contacts are formed over said contact isolation region (34) (see figure 10).

Regarding claim 14, Hsu et al. teaches forming well contact regions (50,52,60,62) adjacent to said first and second isolation regions (38) (see fig. 8).

Regarding claim 19, Hsu et al. teaches a method comprising the steps of:

forming a well region (32) of a first conductivity type in a semiconductor substrate (see fig. 2);

forming a gate dielectric layer (40) on said well region (see fig. 3);

forming a gate layer (44) on said gate dielectric layer (see fig. 4);

forming contact regions (50, 52, 60 and 62) in said well region of a first conductivity type wherein said contact regions are formed using a source and drain region implantation formation process (see figs. 8); and

forming gate layer contacts (72) to said gate conductive layer (44) wherein said gate layer contacts overlie an isolation region (34) (see figs. 4 and 10).

Regarding claim 20, Hsu et al. teaches the step of forming sidewall structures (67) adjacent to said gate layer (46) (see fig. 9).

Regarding claim 21, Hsu et al. teaches that said well region (32) is n-type (see col. 3, lines 42-44).

Regarding claim 22, Hsu et al. teaches that said well region (32) is p-type (see col. 3, lines 40-42).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. (US Pat. No. 5,910,673) in view of Lin et al. (US Pat. No. 6,316,805).

Regarding claims 12 and 13, Hsu et al. fails to teach the limitation about the STI structure. However, Lin et al. teaches that it is well known in the art to use STI structures (212 and 213) instead of the very well known LOCOS regions (see fig. 4 and col. 1, lines 48-50).

Hsu et al. and Lin et al. are analogous art because they are from the same field of endeavor as applicant's invention. At the time of the invention it would have been obvious to a person of ordinary skill in the art to use STI structures. The motivation for doing so, as is taught by Lin et al., is lowering the junction breakdown voltage of the device (col. 4, lines 50-56). Therefore, it would have been obvious to combine Lin et al. with Hsu et al. to obtain the invention of claims 12 and 13.

Response to Arguments

7. Applicant's arguments with respect to claims 11-14 and 19-22 have been considered but are moot in view of the new grounds of rejection.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R. Díaz whose telephone number is (571) 272-1727. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on (571) 272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JRD
6/27/04

Tom Thomas

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